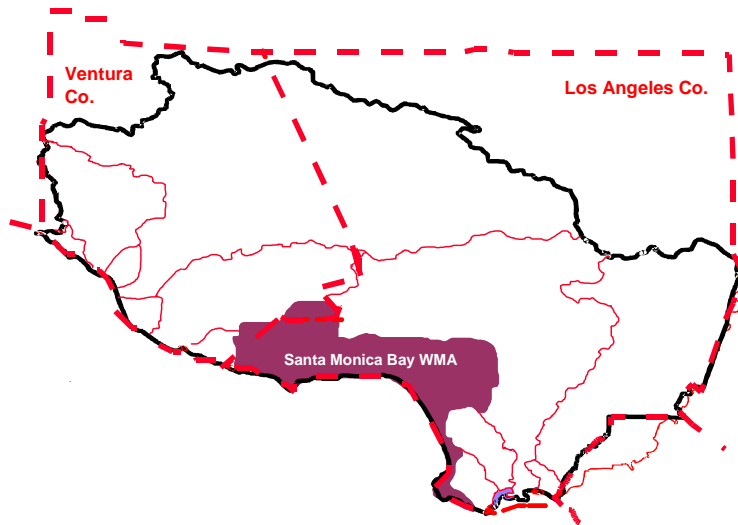


SANTA MONICA BAY WMA

This was the targeted watershed for permitting purposes in FY1996/97 and will be targeted again in FY03/04.

Overview of WMA



The Santa Monica Bay Watershed Management Area (WMA), which encompasses an area of 414 square miles, is quite diverse. Its borders reach from the crest of the Santa Monica Mountains on the north and from the Ventura-Los Angeles County line to downtown Los Angeles. From there it extends south and west across the Los Angeles plain to include the area east of Ballona Creek and north of the Baldwin Hills. South of Ballona Creek the natural drainage area is a narrow strip of wetlands between Playa del Rey and Palos Verdes. The WMA includes several watersheds, the two largest being Malibu Creek to the north and Ballona Creek to the south. The Malibu

Creek area contains mostly undeveloped mountain areas, large acreage residential properties and many natural stream reaches while Ballona Creek is predominantly channelized, and highly developed with both residential and commercial properties.

As a nationally significant water body, Santa Monica Bay was included in the National Estuary Program in 1989. It has been extensively studied by the Santa Monica Bay Restoration Project (SMBRP) and a watershed plan was developed in 1995. The Santa Monica Bay Watershed Council was formed in 1994 to oversee implementation of the Plan. The Restoration Project staff will be coordinating with Regional Board staff to carry out the Board's watershed approach in the Santa Monica Bay Watershed.

Water Quality Problems and Issues

Though relatively small in its size compared with watersheds in other parts of the country, the Santa Monica Bay WMA embraces a high diversity in geological and hydrological characteristics, habitat features, and human activities. Almost every beneficial use defined in the Basin Plan is identified in water bodies somewhere in the WMA. Yet many of these beneficial uses have been impaired for years. While some of the impaired areas are showing signs of recovery, beneficial uses that are in relatively good condition still face the threat of degradation.

Existing and potential beneficial use impairment problems in the watershed fall into two major categories: human health risk, and natural habitat (wildlife) degradation. The former are issues primarily associated with recreational uses of the Santa Monica Bay. The latter are issues associated with terrestrial, aquatic, and marine

Beneficial Uses in the WMA:

All of the beneficial uses defined in the Basin Plan for the Region occur somewhere in this Watershed Management Area except for BIOL (preservation of biological habitats)

environments. Pollutant loadings that originate from human activities are common causes of both human health risks and habitat degradation.

Permitted discharges:

- 191 NPDES discharges including: seven major NPDES permit discharges, three POTWs (two direct ocean discharges), one refinery, and three generating stations; 23 are minor discharges
- 161 dischargers covered under general permits
- 103 dischargers covered by an industrial storm water permit
- 113 dischargers covered by a construction storm water permit

Of the major NPDES dischargers in the Santa Monica Bay WMA, the three POTWs (particularly the two direct ocean discharges) are the largest point sources of pollutants to Santa Monica Bay. Pollutants from the minor discharges have been estimated to contribute less than two percent of the total pollutants being discharged to the Bay.

Types of permitted wastes discharged into the Santa Monica Bay WMA:

Nature of Waste <i>Prior</i> to Treatment or Disposal	# of Permits	Types of Permits
Nonhazardous (designated) contaminated groundwater	3	Minor
	4	General
Nonhazardous (designated) contact cooling water	1	Major
Nonhazardous (designated) domestic sewage & industrial waste	3	Major
Nonhazardous (designated) domestic sewage	2	Minor
Nonhazardous (designated) filter backwash brine waters	1	Minor
Hazardous stormwater runoff	1	Major
Nonhazardous (designated) wastes from dewatering, rec. lake overflow, swimming pool wastes, water ride wastewater, or groundwater seepage	11	Minor
	120	General
Nonhazardous (designated) process waste (produced as part of industrial/manufacturing process)	2	Major
Nonhazardous (designated) stormwater runoff	2	Minor
Hazardous contaminated groundwater	16	General
Nonhazardous noncontact cooling water	1	General
Nonhazardous (designated) noncontact cooling water	4	Minor
	1	General
Nonhazardous contaminated groundwater	1	General
Nonhazardous wastes from dewatering, rec. lake overflow, swimming pool wastes, water ride wastewater, or groundwater seepage	3	General
Nonhazardous contaminated soil	1	general
Inert wastes from dewatering, rec. lake overflow, swimming pool wastes, water ride wastewater, or groundwater seepage)	10	General

Hazardous wastes are those influent or solid wastes that contain toxic, corrosive, ignitable, or reactive substances (prior to treatment or disposal) managed according to applicable Department of Health Services standards

Designated wastes are those influent or solid wastes that contain **nonhazardous** wastes (prior to treatment or disposal) that pose a significant threat to water quality because of their high concentrations

Nonhazardous wastes are those influent or solid wastes that do not contain soluble pollutants or organic wastes (prior to treatment or disposal) and have little adverse impact on water quality

Inert wastes are those influent or solid wastes that do not contain soluble pollutants or organic wastes (prior to treatment or disposal) and have little adverse impact on water quality

Major discharges are POTWs with a yearly average flow of over 0.5 MGD or an industrial source with a yearly average flow of over 0.1 MGD and those with lesser flows but with acute or potential adverse environmental impacts.

Minor discharges are all other discharges that are not categorized as a Major. Minor discharges may be covered by a general permit, which are issued administratively, for those that meet the conditions specified by the particular general permit.

The majority of the 191 NPDES discharges to the Santa Monica Bay WMA go to Ballona Creek (157).

Of the 103 dischargers enrolled under the general industrial storm water permit in the watershed, the largest numbers are located in the cities of Los Angeles and Torrance. Maintenance yards, recycling facilities, and electronics are a large component of these businesses. About half of the facilities are greater than one acre in size and about one-third of them are larger than 10 acres.

There are a total of 113 construction sites enrolled under the construction storm water permit. Twenty-eight of these sites are in the Malibu Creek Watershed. The sites are fairly evenly divided between commercial and residential. About one-half of them occur on sites that are larger than ten acres.

A considerable number of monitoring programs have been implemented in the Santa Monica Bay WMA, particularly over the last twenty years. Sampling efforts tend to center around assessing urban runoff effects in general along the coastline and reservoirs of PCBs and DDT contaminated sediment in the area of the Palos Verdes Shelf. Four statewide monitoring programs, State Mussel Watch, Bay Protection and Toxic Cleanup, Coastal Fish Contamination Program and Toxic Substances Monitoring, focus on biological measurements.

The data from these programs indicate that in general the open coastline is much cleaner than the Bay's enclosed waters, except with regards to DDT and PCBs on the Palos Verdes Shelf. Pollutants of particular concern are chlordane, DDT, copper, and zinc. The BPTCP has listed the Santa Monica Bay - Palos Verdes Shelf area as a toxic hot spot for DDT and PCBs human health advisories (fishing) and NAS exceedances of DDT levels in fish. Marina Del Rey is listed as a toxic hot spot due to sediment concentrations of DDT, PCB, copper, mercury, nickel, lead, zinc and chlordane, and sediment toxicity; Ballona Creek Entrance Channel is listed due to sediment concentrations of DDT, zinc, lead, chlordane, dieldrin, and chlorpyrifos, and sediment toxicity. The BPTCP listed King Harbor as a site of concern, due to sediment concentrations of DDT and PCB and sediment toxicity (not recurrent).

Urbanization has had a significant impact on the riparian and wetland resources of the watershed, primarily through filling, alteration of flows, and decrease in water quality. It is estimated that 95% of the historic wetlands of the Santa Monica Bay WMA have been destroyed, with the remaining wetlands significantly degraded.

Although groundwater accounts for only a limited portion of the Santa Monica Bay WMA's supply of fresh water, the general quality of groundwater in the watershed has degraded from background levels.

Greater Santa Monica Bay

Santa Monica Bay is heavily used for fishing, swimming, surfing, diving etc., activities classified as water contact recreation (REC-1). However, the ability for people to enjoy these activities has been lost to a certain degree because of the real or perceived risk to human health. The primary, and also the best documented, problems are acute health risk associated with swimming in runoff-contaminated surfzone waters, and chronic (cancer) risk associated with consumption of certain sport fish species in areas impacted by DDT and PCB contamination.

The general public has also been concerned about potential health risks associated with the consumption of contaminated seafood from Santa Monica Bay. This is the primary pathway through which humans are exposed to toxic chemicals found in the marine environment. Recent studies, however, have shown that health risks are limited to consumption of certain seafood species found at certain locations.

One of the most evident impacts in marine habitats is sediment contamination and damage to marine life that the contaminants cause when they are released from the sediment (through natural fluctuations or through disturbance of the sediment) into the food chain. Organic compounds such as DDT, PCBs,

Major Issues of Concern in Greater Santa Monica Bay

- Acute health risk associated with swimming in runoff-contaminated surfzone waters
- Chronic risk associated with consumption of certain sport fish species in areas impacted by DDT and PCB contamination
- Reduction of loadings from the two major POTWs in light of projected population increases
- Other impacts from urban runoff/storm water
- Historic deposits of DDT and PCBs in sediment; high levels in fish (Palos Verdes Shelf a Superfund site)
- Loadings of pollutants from other sources: sediment resuspension, atmospheric deposition
- The need to have a better understanding of the Bay's resources

polycyclic aromatic hydrocarbons (PAHs), chlordane, and tributyltin (TBT) are found in sediments in concentrations that are harmful to marine organisms at various locations in the Bay. Also found in Bay sediments are heavy metals such as cadmium, copper, chromium, nickel, silver, zinc, and lead. The major historic sources of sediment contamination have been wastewater treatment facilities; thus the accumulations are highest near treatment plant outfalls off of Palos Verdes and Playa del Rey.

Bioaccumulation of DDT in white croaker, dover sole, and California brown pelicans are well-known examples of the impacts caused by sediment contamination. Prior to the 1980s, high concentrations

of DDT were found in muscle tissues of these organisms. DDT in these organisms was implicated in fin erosion and other diseases in fish as well as eggshell thinning and subsequent species decline in the California brown pelican.

Malibu Creek Watershed

The most recent Water Quality Assessment Report finds water quality in some streams within the Malibu Creek Watershed is impaired by nutrients and their effects, coliform and their effects, trash, and, in some instances, metals. While natural sources contribute, nonpoint source pollution from human activities is strongly implicated including ill-placed or malfunctioning septic systems and runoff from horse corrals. Nutrient inputs are also contributed by urban runoff and the POTW which discharges tertiary-treated effluent into the Creek about five miles upstream of Malibu Lagoon.

Major Issues of Concern in Malibu Creek Watershed

- Excessive freshwater, nutrients, and coliform in lagoon; contributions from POTW
- Urban runoff from upper watershed
- Impacts to swimmers/surfers from lagoon water
- Septic tanks in lower watershed
- Appropriate restoration and management of lagoon
- Access to creek and lagoon by endangered fish (steelhead trout and tidewater goby)

A nutrient TMDL for the mainstem of the Creek is in progress although ecologically-relevant nutrient objectives are lacking. A study recently completed by UCLA provided recommendations which should lead to more effective management of the Lagoon and its resources as the restoration process continues.

Historically, the Lagoon was much larger than its current day size. Although the flow dynamics of the Creek as well as the ocean's influence on the Lagoon in the past can only be extrapolated, it is likely Creek flow was much less than today during the dry season, partially due to increased imported

water demands upstream. Marine influence may have dominated, keeping the lagoon entrance open much of the year as occurs in the larger Mugu Lagoon to the north. An open Lagoon would have facilitated migration of the now endangered steelhead trout. And though continual Creek flow was likely less, more of the watershed was available for the trouts' use, at least prior to the construction of Rindge Dam in the 1920's. Most important, during the dry season there would be access to deep shaded pools in many parts of the watershed where the fish could mature until rain created the flows needed to reach the ocean.

Today, the flow regime is quite different and now a major issue of concern. Both increased urban runoff from the more developed upper watershed and discharges from the POTW have increased baseline flows. However, recently the POTW which discharges to Malibu Creek came under a discharge prohibition starting each April 15 through November 15 of each year, except during times of plant upset, storm events, or the existence of minimal streamflow conditions that require flow augmentation in Malibu Creek to sustain endangered species. In the long-run, this discharge prohibition may have many other implications on water quality and quantity in the Creek and Lagoon.

The lagoon size is much reduced from historic times and it currently remains closed much of the year except for during the winter when ocean influences breach the sandbar and Creek flows help maintain the opening. This had led to decreasing salinity or, at times, greatly fluctuating salinity which has disturbed efforts to restore the Lagoon. This also leads to elevated groundwater levels adjacent to the lagoon, assuring failure of septic systems in the area. Additionally, surfing and swimming is popular off the beaches in the immediate area and there is considerable concern over contaminated Lagoon water reaching these people.

Ballona Creek Watershed

The most recent Water Quality Assessment Report indicates impairment in this watershed due to coliform and its effects such as shellfish harvesting advisories; trash; PCBs and pesticides of historical origin such as DDT, chlordane, and dieldrin, as well as their effects such as sediment toxicity; metals such as lead, silver, arsenic, copper, cadmium, and zinc, as well as their effects such as water column toxicity; and tributyltin.

Ballona Creek is completely channelized to the ocean except for the estuarine portion which has a soft bottom. While at one time it drained into a large wetlands complex, it now has no direct connection to the few wetlands remaining in the area, although tide gates exist in the channel which connect to Ballona Wetlands. However, Ballona Creek may more often affect the nearby wetlands due to wave action moving trash, suspended material and dissolved contaminants from the ocean to the nearby Ballona Wetlands and Marina del Rey Harbor within which complex Ballona Lagoon is located.

The U.S. Army Corps of Engineers (USACE) and Los Angeles County Department of Beaches and Harbors have several times conducted dredging operations in order to keep the entrance to Ballona Creek and Marina del Rey Harbor open although this is not a routine procedure. Led by the Los Angeles Basin Contaminated Sediment Task Force (for further information on this Task Force, see the Regionwide Section of this document), the USACE is conducting a study to identify sources of heavy metals loadings within the watershed. The results of the study could provide useful information to develop a TMDL for selected heavy metals.

Major Issues of Concern in Ballona Creek Watershed and Wetlands

- Trash loading from creek
- Wetlands restoration
- Sediment contamination by heavy metals from creek to Marina del Rey Harbor and offshore)
- Toxicity of both dry weather and storm runoff in creek
- High bacterial indicators at mouth of creek

Both dry weather and storm runoff from the main channel and two major tributaries were found to be toxic to marine organisms. Toxicity was also found during storms in the ocean near the mouth of Ballona Creek. Preliminary investigations showed that the sources of toxicity varied, and were associated with metals on one occasion and with organic chemicals on another occasion. Further efforts are needed to identify the sources of toxicity.

Bacterial indicator levels measured at stations near the mouth of Ballona Creek frequently exceed the level of concern. As a result, warning signs are posted permanently on each side of the Creek. The number of beach closures due to sewage spills rose again in 1998 after a long declining trend over the last ten years. The standards used to determine whether a beach should be closed are now based on AB411 and, since its passage, a greater number of beach closures have been seen statewide.

The BPTCP lists the Ballona Creek Entrance Channel and Marina del Rey back channels as Toxic Hot Spots; however, since they are not high priority sites, the Regional Board have not yet developed preliminary remediation plans or cost estimates.

Other Urban Watersheds

The most recent Water Quality Assessment Report indicates impairment in many of these smaller drainages, which discharge directly to the ocean, due to one or several of the following: coliform, ammonia, lead, copper (and toxicity likely associated with metals), trash, and low dissolved oxygen. Due to the frequency of high bacterial indicator levels, warning signs are posted permanently at many of these locations (i.e., storm drain outlets). It should be noted that there are plans to divert many of these storm drains to the sewer system during dry weather.

IMPAIRMENTS:

The table below gives examples of typical data ranges which led to the 1998 303(d) listings.

Impairments	Applicable Objective/Criteria	Typical Data Ranges Resulting in Impairment	303(d) Listed Waters/Reaches
beach closures	Basin Plan narrative objective	1 - 15 days/year closed	Marina Del Rey Harbor Beach Santa Monica Bay beaches
swimming restrictions	Basin Plan narrative objective		Malibu Lagoon
shellfish harvesting adv.	Basin Plan narrative objective		Malibu Lagoon Ballona Creek Estuary
enteric viruses	Basin Plan narrative objective		Malibu Lagoon Pico Kenter Drain Ballona Creek
pathogens	Basin Plan narrative objective		Palos Verdes Shoreline Point Beach

Impairments	Applicable Objective/Criteria	Typical Data Ranges Resulting in Impairment	303(d) Listed Waters/Reaches
coliform	<p>Basin Plan numeric objective: Inland: fecal coliform not to exceed log mean of 200 mpn/100ml in 30-day period and not more than 10% of samples exceed 400 MPN/100ml Beaches: total coliform not to exceed 1,000 MPN/100ml in more than 20% of samples in 30 days and not more than 10,000 MPN/100ml at any time</p>	Exceedances occurring on up to 53% of sample dates	<p>Marina Del Rey Harbor Beach Marine del Rey Harbor - Back Basins Medea Creek Reach 2 (abv. confl. with Lindero) Medea Creek Reach 1 (lake to confl. with Lindero) Las Virgenes Creek Malibu Lagoon Malibu Creek: lagoon to Malibu Lake Stokes Creek Lindero Creek Reach 1 Lindero Creek Reach 2 (above lake) Palo Comado Santa Monica Bay beaches Santa Monica Canyon Ashland Avenue Drain Sepulveda Canyon Pico Kenter Drain Ballona Creek Estuary Ballona Creek</p>
algae	Basin Plan narrative objective		<p>Malibu Creek: Lagoon to Malibu Lake Las Virgenes Creek Lindero Creek Reach 2 (above lake) Medea Creek Reach 2 (abv. confl. with Lindero) Medea Creek Reach 1 (lake to confl. with Lindero) Lindero Creek Reach 1 Malibou Lake Lake Lindero Westlake Lake Lake Sherwood</p>
eutroph.	Basin Plan narrative objective		<p>Malibu Lagoon Malibou Lake Lake Lindero Westlake Lake Lake Sherwood</p>
unnatural scum/foam	Basin Plan narrative objective		<p>Malibu Creek: lagoon to Malibu Lake Las Virgenes Creek Lindero Creek Reach 2 (above lake) Lindero Creek Reach 1</p>
ammonia	<p>Basin Plan narrative objective</p> <p>Basin Plan numeric objective: varies depending on pH and temperature but the general range is 0.53 - 2.7 mg/l of total ammonia (at average pH and temp.) in waters designated as WARM to protect against chronic toxicity and 2.3-28.0 mg/l to protect against acute toxicity</p>	ND - 5.77 mg/l	<p>Westlake Lake Lake Sherwood Sepulveda Canyon Pico Kenter Drain</p>
odors	Basin Plan narrative objective		Lake Lindero
low DO, organic enrichment	<p>Basin Plan narrative objective</p> <p>Basin Plan numeric objective: annual mean greater than 7.0 mg/l no single sample less than 5.0 mg/l</p>	0.1 - 19.3 mg/l (mean of 4.9 ± 4.5)	<p>Las Virgenes Creek Malibou Lake Westlake Lake Lake Sherwood Ashland Avenue Drain</p>
trash	Basin Plan narrative objective		<p>Ballona Wetland Ballona Creek Medea Creek Reach 2 (abv. confl. with Lindero) Medea Creek Reach 1 (lake to confl. with Lindero) Lake Lindero Lindero Creek Reach 2 (above lake) Lindero Creek Reach 1 Malibu Creek: lagoon to Malibu Lake Las Virgenes Creek Pico Kenter Drain</p>

Impairments	Applicable Objective/Criteria	Typical Data Ranges Resulting in Impairment	303(d) Listed Waters/Reaches
mercury (water & tissue)	USEPA water quality criteria: 0.012 ug/l State Board numeric objective (tissue): Max. Tissue Residue Level 1,000 ng/g	1.0 ug/l (maximum - water)	Santa Monica Bay Nearshore and Offshore Zone Lake Sherwood Triunfo Cyn Creek Reach 1 Triunfo Cyn Creek Reach 2
lead (water & sediment)	Basin Plan narrative objective USEPA water quality criteria: varies based on hardness but typically 3.2 - 25 ug/l	100 - 306 ng/g (sediment) 91 - 240 ug/l (water)	Marina del Rey Harbor - Back Basins Topanga Cyn Creek Sepulveda Canyon Pico Kenter Drain Santa Monica Bay Nearshore and Offshore Zone Ballona Creek Ballona Creek Estuary Santa Monica Canyon Westlake Lake Triunfo Cyn Creek Reach 1 Triunfo Cyn Creek Reach 2
cadmium (sediment)	Basin Plan narrative objective		Ballona Creek Santa Monica Bay Nearshore and Offshore Zone
copper (sediment, tissue, & water)	Basin Plan narrative objective USEPA water quality criteria: varies based on hardness but typically 12 - 47 ug/l	100 ng/g (tissue) 117 - 293 ug/l (water)	Santa Monica Bay Nearshore and Offshore Zone Marina del Rey Harbor - Back Basins Ballona Creek Pico Kenter Drain Westlake Lake Malibu Lake Lake Calabasas
nickel (sediment)	Basin Plan narrative objective		Santa Monica Bay Nearshore and Offshore Zone
silver (sediment)	Basin Plan narrative objective		Santa Monica Bay Nearshore and Offshore Zone Ballona Creek
arsenic (tissue)	State Board numeric objective (tissue): Max. Tissue Residue Level 200 ng/g		Ballona Creek Ballona Wetland
zinc (tissue & sediment)	Basin Plan narrative objective	500 ng/g (sediment) 500 ng/g (tissue)	Santa Monica Bay Nearshore and Offshore Zone Marina del Rey Harbor - Back Basins Ballona Creek Estuary Lake Calabasas
selenium (water)	USEPA water quality criteria: 5.0 ug/l	8 - 38 ug/l	Lake Lindero Medea Creek Reach 2 (abv. confl. with Lindero) Medea Creek Reach 1 (lake to confl. with Lindero) Las Virgenes Creek Lindero Creek Reach 2 (above lake) Lindero Creek Reach 1
tributyltin (sediment & tissue)	Basin Plan narrative objective	6,000 ng/g (tissue)	Ballona Creek Marina del Rey Harbor - Back Basins
toxicity	Basin Plan narrative objective		Ballona Creek Ashland Avenue Drain Pico Kenter Drain
benthic comm. effects	Basin Plan narrative objective		Marina del Rey Harbor - Back Basins Malibu Lagoon
fish consumption advisory	Basin Plan narrative objective		Santa Monica Bay Nearshore and Offshore Zone Marina del Rey Harbor - Back Basins
sediment toxicity	Basin Plan narrative objective		Santa Monica Bay Nearshore and Offshore Zone Marina del Rey Harbor - Back Basins Ballona Creek Ballona Creek Estuary
ChemA*	National Academy of Science Guideline (tissue): 100 ng/g		Ballona Creek
PAHs (sediment)	Basin Plan narrative objective	5000 - 6509 ng/g	Ballona Creek Estuary Santa Monica Bay Nearshore and Offshore Zone

Impairments	Applicable Objective/Criteria	Typical Data Ranges Resulting in Impairment	303(d) Listed Waters/Reaches
DDT (tissue)	State Board numeric objective (tissue): Max. Tissue Residue Level 32.0 ng/g	52 - 88 ng/g	Marina del Rey Harbor - Back Basins Ballona Creek Estuary Ballona Creek Santa Monica Bay Nearshore and Offshore Zone Santa Monica Bay beaches
pesticides	Basin Plan narrative objective		Palos Verdes Shoreline Point Beach
PCBs (sediment & tissue)	Basin Plan narrative objective	200 ng/g (sediment)	Marina del Rey Harbor - Back Basins Ballona Creek Estuary Ballona Creek Malibou Lake Santa Monica Bay Nearshore and Offshore Zone Santa Monica Bay beaches
	State Board numeric objective (tissue): Max. Tissue Residue Level 2.2 ng/g	29 - 162 ng/g	
dieldrin (tissue)	State Board numeric objective (tissue): Max. Tissue Residue Level 0.65 ng/g	4.8 - 16.8 ng/g	Ballona Creek Marina del Rey Harbor - Back Basins
chlordane (tissue & sediment)	Basin Plan narrative objective	100 ng/g (sediment)	Ballona Creek Santa Monica Bay Nearshore and Offshore Zone Ballona Creek Estuary Marina del Rey Harbor - Back Basins Westlake Lake Malibou Lake
	State Board numeric objective (tissue): Max. Tissue Residue Level 1.1 ng/g	15.3 - 55 ng/g (tissue)	
exotic vegetation	Basin Plan narrative objective		Ballona Wetland
habitat alteration, hydromodification, reduced tidal flushing	Basin Plan narrative objective		Ballona Wetland
debris	Basin Plan narrative objective		Santa Monica Bay Nearshore and Offshore Zone
chloride	Basin Plan numeric objective: 250 mg/l	89 - 330 mg/l (mean of 244 ± 76)	Lake Lindero
specific conductance	Basin Plan narrative objective	1325 - 3530 mg/l (mean of 2937 ± 747)	Lake Lindero

* ChemA refers to the sum of the chemicals aldrin, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, HCH (including lindane), endosulfan, and toxaphene

CURRENTLY SCHEDULED TMDLS:

Type of TMDL	Listed Waters/Reaches in TMDL	Year Scheduled for Completion (FY)
trash	Ballona Wetland Ballona Creek	01/02
Nutrients and their effect	Malibu Lagoon Malibu Creek: Lagoon to Malibu Lake Lindero Creek Reaches 1 and 2 Las Virgenes Creek Medea Creek Reaches 1 and 2 Malibou Lake Lake Lindero Westlake Lake Lake Sherwood	01/02
coliform and its effect	Medea Creek Reaches 1 and 2 Lindero Creek Reaches 1 and 2 Las Virgenes Creek Malibu Lagoon Malibu Creek: lagoon to Malibu Lake Stokes Creek Palo Comado	01/02
coliform and its effect	Greater Santa Monica Bay beaches Santa Monica Canyon Ashland Avenue Drain Sepulveda Canyon Pico Kenter Drain	01/02

Type of TMDL	Listed Waters/Reaches in TMDL	Year Scheduled for Completion (FY)
coliform and its effect	Marina Del Rey Harbor Beach Marine del Rey Harbor - Back Basins	03/04
metals and their effects	Ballona Creek Ballona Creek Estuary Ballona Wetland	03/04
coliform and its effect	Ballona Creek Estuary Ballona Creek	03/04
hist. PCBs, pest. and effects	Marina del Rey Harbor - Back Basins	03/04
Metals	Santa Monica Bay Nearshore and Offshore Zone	04/05
hist. PCBs, pest. and effects	Ballona Creek Ballona Creek Estuary	04/05
Metals	Marina del Rey Harbor - Back Basins	04/05
Chlordane	Santa Monica Bay Offshore/Nearshore	05/06
Trash	Lake Lindero Las Virgenes Creek Lindero Creek Reaches 1 and 2 Malibu Creek Medea Creek Reaches 1 and 2	06/07

We see a need for an additional 4.2 PYs as well as \$230,000 in contract dollars for FY02/03 TMDL work conducted in this watershed.

Stakeholder Groups

- Malibu Creek Watershed Executive Advisory Council (with subcommittees)* A number of stakeholders began meeting in the late 1980's/early 1990's in the Malibu area. Through their efforts, a list of priority issues that need to be resolved was formulated. This led to the development of a Natural Resources Plan for the watershed which was prepared by the US Natural Resources Conservation Service. Separate task forces and subcommittees were formed under the Advisory Council, which serves as the main stakeholder forum. The Malibu Creek Watershed Executive Advisory Council consists of members from State and local agencies and organizations, environmental groups, business and dischargers, special districts and the general public. Their mission is to oversee and implement actions that will protect, enhance and restore habitats of the watershed, as well as improve water quality. The Malibu Lagoon Task Force has been quite active in oversight of the UCLA report, Lagoon Resource Enhancement and Management Study, and in prioritization of its recommendations for BMPs and wetlands restoration. Also currently active are several subcommittees, including the Habitat and Species Task Force, the Water Quality and Monitoring Task Force and the Education Subcommittee. Advisory Council meetings occur every other month while subcommittees may meet intermittently or regularly.
- Santa Monica Bay Restoration Project (Watershed Council, Bay Steering Committee, Implementation Committees, and Technical Advisory Committee)* The SMBRP was formed in 1989 under the National Estuary Program and is charged with the responsibility of assessing the Bay's problems, developing solutions, and identifying implementation procedures. A Bay Restoration Plan was developed and is in the process of being implemented. A Regional Board member and sometimes a staff member attend the quarterly meetings of the Watershed Council, while another staff member attends the bi-monthly Technical Advisory Committee meetings. More information about the SMBRP may be found at their website <http://www.smbay.org/>
- Ballona Creek Watershed Task Force* The task force was formed in 2000 as a stakeholder group addressing water quality and habitat issues in the watershed. Its current focus is development of a Ballona Creek Watershed Management Plan, an effort funded largely by the Proposition 13 Watershed Protection Program.

- *Topanga Watershed Committee* The committee was formed in 1998 as a followup to previous a community group working on developing alternatives to traditional flood control measures. Their focus has expanded to include general watershed management and protection activities as well as volunteer monitoring. A draft watershed management plan is close to being finalized. Work is also proceeding to define the extent of restoration feasible to Topanga Lagoon. Design work on the preferred alternative would be funded by a Proposition 12 grant. A recently concluded 205(j) grant-funded project conducted baseline water quality monitoring for the past two years during both dry and weather. More information about this group may be found at their website <http://www.topangaonline.com/twc/index.html>.

Past Significant Activities

WATERSHED MANAGEMENT

The first edition of a State of the Watershed Report was produced in June 1997 which assessed water quality using data from the SMBRP and the Regional Board as well as other data provided by Watershed Council members; this document will continue to evolve and be updated.

WETLANDS PROTECTION AND MANAGEMENT

In the Malibu area, [The Southern California Wetlands Recovery Project](#), funding for the Cold Creek Riparian acquisition was approved by the Coastal Conservancy in June 2001 and acquisition was completed in October 2001.

NONPOINT SOURCE PROGRAM

A number of nonpoint source control strategies have been undertaken in the Malibu Creek Watershed. Those that involved restoration of aquatic life beneficial uses include streambank and riparian corridor habitat restoration projects funded by 319(h) monies undertaken by the Resource Conservation District of the Santa Monica Mountains and the Department of Parks and Recreation. Additionally, the Resource Conservation District has prepared a manual for horse owners in the areas detailing ways to prevent nonpoint source inputs from their land (funded by 319(h) monies). Also, the City of Calabasas is using 319(h) money to develop and coordinate a watershed education center and library. A 319(h) project involving restoration of Zuma Lagoon recently concluded. The goals of the project were: enhancement of existing native habitats, an increase in habitat diversity and expansion of freshwater marsh and willow riparian habitats through the use of native plantings, establishment of a sycamore alluvial woodland/coastal scrub habitat, and development of an interpretive area and trails that would serve to educate the public regarding the biological and cultural resources of the site.

The SMBRP report, “Making Progress: Restoration of the Malibu Creek Watershed” (January 2001) includes Table 1.3, Key Watershed Projects, Studies, Stakeholder Groups and Partnerships. It lists 17 different non-point source projects that have been implemented in the Malibu Creek Watershed over the past decade to address water quality and habitat issues.

Current Activities

The following is a summary of current regional board activities and strategies for dealing with point and nonpoint source pollution as well as other issues of concern in the Santa Monica Bay WMA.

CORE REGULATORY

Revisions of most of the major permits took place during 1997. Many of the minor discharges are now regulated under general permits. Portions of a regional ocean monitoring program are currently being implemented and other aspects of it are being developed (see Region-wide Section for additional details). Watershed (inland) regional monitoring programs are being developed with the dual purpose, in many instances, of both creating a more effective program and collecting the needed data to determine mass loading allocations. Ongoing work related to individual NPDES permits includes review and assessment of monitoring data, conducting compliance inspections, and pursuing enforcement actions if necessary. Due to limited resources, only the basic regulatory activities are performed: review of dischargers' monitoring reports, minimum necessary inspections and sampling, issuance/renewal of permits, levels 1 and 2 enforcement actions (noncompliance and violation notification), case handling, and answering inquiries from the public.

Core regulatory responsibilities also include administration of the consent decrees for full secondary treatment compliance by the City of Los Angeles and the County Sanitation Districts of Los Angeles County (CSDLAC) and a 1990 Settlement Agreement with the City of Los Angeles. Another responsibility is oversight of the approved pretreatment programs for the joint outfall system for the City of Los Angeles and the CSDLAC and oversight of the sewage collection systems. Also, given the recent surge in sewage spills into Ballona Creek, the Regional Board needs to exercise its authority through use of enforcement actions to require the City of Los Angeles to complete its planned infrastructure improvement and enhance its vigilance over the existing sewer system.

In addition, although the permit for the Tapia Water Reclamation Plant in the Malibu Creek Watershed was renewed in 1997, there were appeals and changes which resulted in the permit being revised again in December 1999. Staff continue to spend significant effort on this permit due to contentious issues such as the summer flow prohibition, and pending nutrient and total maximum daily load limitations.

However, the Regional Board also needs to encourage and support the development and implementation of innovative structural and non-structural BMPs under the municipal storm water permit. In the Ballona Creek Watershed, over the next two years, many projects funded under Proposition A will be implemented. Promoted by the SMBRP, co-permittees within the watershed have collaboratively or individually conducted pilot projects to test new catchbasin retrofit devices and the effectiveness of street sweeping methodologies. The City of Los Angeles also conducted a study of impacts of street washing in homeless-aggregated areas. The results of these studies/pilot projects may lead to possible wide application of some new BMPs over the next two years.

The Santa Monica Bay Watershed Management Area falls within Los Angeles County which has been covered by a municipal storm water permit since 1990. The third five-year permit was adopted on December 13, 2001. This permit covers Los Angeles County and all the incorporated cities, except the City of Long Beach, which was issued a separate municipal storm water permit in 1999. The Los Angeles County Flood Control District is the Principal Permittee. Under the requirements of the permit, the Permittees will implement the Storm Water Quality Management Plan which includes the following components: (a) Program Management; (b) Public Information and Participation Program; (c) Industrial/Commercial Facilities Program; (d) Development Planning Program; (e) Programs for Construction Sites; (f) Public Agency Activities; and (g) Illicit Connection/Illicit Discharge Elimination Program. These programs collectively are expected to reduce pollutants in storm water discharges to the maximum extent practicable. In addition, the County will conduct a storm water monitoring program to estimate mass emissions and toxicity of pollutants in its waters, evaluate causes of toxicity, and several other components to characterize storm water discharges and measure the effectiveness of the Storm

Water Quality Management Program. The permit can be downloaded from the Regional Board Storm Water website at <http://www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/stormwater.html>.

An important requirement of both the Los Angeles County and the City of Long Beach municipal storm water permits is implementation of the Standard Urban Storm Water Mitigation Plans (SUSMPs) and numerical design standards for Best Management Practices (BMPs), which municipalities began implementing in February 2001. The final SUSMP was issued on March 8, 2000, and amended in the permit, adopted on December 13, 2001. The SUSMP is designed to ensure that storm water pollution is addressed in one of the most effective ways possible, i.e., by incorporating BMPs in the design phase of new development and redevelopment. It provides for numerical design standards to ensure that storm water runoff is managed for water quality and quantity concerns. The purpose of the SUSMP requirements is to minimize, to the maximum extent practicable, the discharge of pollutants of concern from new and redevelopment. The requirements are very similar to the Ventura County SQUIP.

The numerical design standard is that post-construction treatment BMPs be designed to mitigate (infiltrate or treat) storm water runoff from the first $\frac{3}{4}$ inch of rainfall, prior to its discharge to a storm water conveyance system. Other standards also apply; additional information on the SUSMP may be found on the Regional Board Storm Water website at http://www.swrcb.ca.gov/rwqcb4/html/news/susmp/susmp_details.html.

MONITORING AND ASSESSMENT

Portions of a regional ocean monitoring program are currently being implemented and other aspects of it are being developed. Watershed (inland) regional monitoring programs are being developed with the dual purpose, in many instances, of both creating a more effective program and collecting the needed data to determine mass loading allocations. Bight'98 and 1994 Southern California Bight Pilot Project (SCBPP) monitoring covered coastal areas (including harbors and marinas in Bight'98).

The SMBRP, with participation of the Regional Board, has been developing a new sources and loading monitoring design for point and nonpoint source ocean discharges from the Santa Monica Bay WMA/watershed. The overall objective of this monitoring program design, which applies to any watershed, is to produce improved estimates of loadings to the Bay in order to:

- make cost-effective trade-offs in reducing inputs of toxic pollutants
- evaluate the effectiveness over time of source control and treatment options taken to reduce inputs to the Bay
- assist in evaluating receiving water impacts

Because it is not practical to continuously monitor every stream/storm drain, the monitoring approach adopted by the municipal storm water permit is to rely on sampling of a set of mass loading stations in combination with a set of land use stations. Data collected through sampling of these stations will then be used to calibrate models that produce mass loading estimates for a specific watershed/subwatershed. This approach is further supplemented by several monitoring programs and research projects with narrower objectives. Under the municipal storm water permit, the Los Angeles County Department of Public Works (LAC-DPW) is conducting a critical source monitoring project to estimate the relative loading from five selected facilities/sites with high potential of generating pollutants. Caltrans conducts monitoring aimed at estimating loadings from highway runoff. For the last two years, LAC-DPW has funded USC/UCBS/SCCWRP to define the dispersion zone of storm water in the nearshore ocean and to study impacts from storm water runoff by measuring sediment contamination, toxicity, and the benthic community response index in the dispersion zone. The USACE has worked with UCLA to collect storm water samples in Ballona Creek to calculate relative contributions of pollutant loadings from each

tributary and major land use types. SCCWRP also has on-going efforts to investigate the loading and impacts of storm water runoff throughout the Southern California region, including creeks in the Santa Monica Mountains.

Besides information provided by these existing efforts, there are still information gaps that hinder the fulfillment of the identified monitoring objectives. Specifically, the following needs to happen during the next two years:

- A project that develops methodology for and conducts status and trend analysis using stormwater monitoring data collected under the municipal NPDES permit.
- A study that uses more frequent monitoring during different periods of a storm to generate a "pollutograph." This information will greatly improve the accuracy of pollutant loading estimates generated by modeling efforts.
- A project that resolves the issue of consistency in detection limits used by different dischargers. The Regional Board needs recommendations and rationale on the proper detection limits for each measured constituent to estimate and make comparisons of loadings from various sources (point and nonpoint sources).
- The study and application of molecular markers for storm water runoff. The marker can be used to identify the area of storm water influence and therefore aid further study if the runoff impacts in receiving water sediments.
- Toxicity Identification Evaluations to identify the sources of storm water/urban runoff toxicity.
- A study of the effectiveness of structural BMPs that are implemented using Proposition A grant money funds. Since many pollution control devices are new and considered to be pilots in the Region, the review panel for the Proposition A funds recommended that the regional Board should take on the responsibility to both monitor the progress in implementing these projects and to evaluate the effectiveness of installed devices for regional applicability.
- A study of the effectiveness of non-structural BMPs (e.g. public outreach) implemented under the municipal storm water permit. The information will be useful for developing future storm water pollution control strategies.
- Development of practical sanitation survey tools.

These projects would require either additional staff time or need to receive funding from sources such as Section 205(j) grants, State Revolving Fund (SRF), or Proposition 13.

A marine resource inventory and habitat mapping (available on CD) are two projects recently completed for Santa Monica Bay. The objectives of these projects are to produce a detailed inventory of the Bay's habitats, especially the Bay's unique and sensitive habitats that have been overlooked in past monitoring and inventory including intertidal, kelp bed, short bank, Torrance Beach, and artificial reefs. It also provides necessary baseline for the valuation (and potential damage assessment) of the Bay's habitats, for special designation (e.g. ecological reserve) of certain areas, and for planning measures against abuse and depletion by pollution, development, or excessive harvesting. Additionally, it helps to identify the "habitats of concern" or "species of concern" and identify cost-effective methods for restoration and rebuilding efforts. It is anticipated that the initial mapping and inventory efforts planned by the SMBRP will identify many data gaps that need to be filled by special studies that:

- quantify the amount of substrate in the Bay and the Southern California Bight capable of supporting kelp beds
- assess the conditions of kelp habitats in the vicinity of Malibu
- analyze trends in the abundance of target species such as sea stars, owl limpets, and sea grasses based on historical surveys
- analyze trends in community composition and diversity of intertidal habitats in the Bay
- survey the abundance of resident species in the Bay
- assess the population sustainability of key commercial and sportfishing species

These studies could qualify to receive grant funding such as Section 205(j), SRF, or Proposition 13.

There are also a number of ongoing volunteer monitoring efforts underway in the WMA. They include storm event sampling at over 30 Bay storm drains coordinated by the Santa Monica BayKeeper, gutter patrol monitoring in inland neighborhoods and monitoring of Malibu Lagoon and the lower Creek for water quality and biological parameters coordinated by Heal the Bay, water quality and biological monitoring and surveys of Malibu Lagoon coordinated by the Resource Conservation District of the Santa Monica Mountains, monitoring of the upper Malibu Creek Watershed, and coliform monitoring of the surf zone off of Malibu coordinated by the Malibu Chapter of the Surfrider Foundation.

UCLA is under contract with the State Board to provide data needed for establishment of nutrient TMDLs in several watersheds within the Region including Calleguas Creek, Santa Clara River, and Malibu Creek. By understanding the inter-relationships between water quality and habitat condition and the resulting effects that these interactions have on the biological communities of coastal watersheds, this research will further our understanding of the ecology of southern California watersheds. Besides providing information supporting the establishment of nutrient TMDLs for these three impaired coastal watersheds, the data collected may provide insight into how these TMDLs might be complied with in the future. Three specific objectives of this project are: 1) investigate the relationships between water quality (e.g. nutrients), habitat quality, and the biological community, 2) investigate how water quality and biological communities change throughout particular target reaches representing different land uses, and 3) compare the relationships between water quality, habitat quality, and biological communities among different watersheds. The work is a continuation and extension of a Regional Environmental Monitoring and Assessment Program (R-EMAP) project in the Calleguas Creek Watershed. R-EMAP is part of a larger national effort by the USEPA to assess the condition of the nation's ecological resources.

The Southern California Coastal Water Research Project (SCCWRP) is under contract with the State Board to provide technical support for the Regional Board's TMDL development efforts. Several related tasks are ongoing in the Malibu Creek Watershed including: 1) an assessment of the current level of impairment to water quality from algal biomass in the Creek through dissolved oxygen measurements, 2) an assessment of the current level of impairment to water quality from algal biomass in the Creek through a survey of algal biomass and species composition at multiple locations as well as collection of water quality samples and surveys of habitat types, and 3) a determination of whether nitrogen or phosphorus limits algal growth in order to develop appropriate water quality objectives.

Additionally, this watershed will be the focus of SWAMP monitoring in FY02/03.

WETLANDS PROTECTION AND MANAGEMENT

The wetlands priority in the Ballona Creek Watershed is Ballona Wetlands. Currently, the restoration process is stalled due to controversy surrounding approval of a large development in the area. Previous planning efforts have produced a wetlands restoration plan known as a "hybrid" plan, which contains elements of both full and mid-tidal alternatives in a manner that reduces environmental impacts and minimizes costs. Depending on the development plan approval process, the strategy is to ensure that adequate funding sources are secured for implementation of the restoration plan. The Regional Board participated in this activity through the 401 water quality certification process.

In the Malibu Creek Watershed, [The Southern California Wetlands Recovery Project](#) considers the Malibu Lagoon Water Level Control Project, the Upper Malibu Creek Feasibility (Rindge Dam), and Malibu Lagoon Habitat Enhancement (implementation of recommendations from the UCLA study) high priorities in their current workplan. Further up the coast, funding for the Solstice Creek Steelhead Enhancement Project was approved by the Coastal Conservancy in March 2001. The project will address

several steelhead passage barriers in the creek. In the Topanga Creek Watershed, acquisition of land in the Upper Zuniga Road area is nearly complete. This area has valuable pond habitat.

The Santa Monica Mountains Conservancy is a state agency created by the Legislature in 1979 charged with primary responsibility for acquiring property with statewide and regional significance, and making those properties accessible to the general public. The Conservancy manages parkland in the Santa Monica Mountains, Santa Susana Mountains, the Simi Hills, the Santa Clarita Woodlands, the Whittier-Puente Hills, the Sierra Pelona, the Los Angeles River Greenway, the Rio Hondo, the Verdugo Mountains, the San Gabriel Mountains, and the San Rafael Hills. The agency's goals are to: 1) implement the Santa Monica Mountains Comprehensive Plan, 2) implement the Rim of the Valley Trails Corridor Master Plan, 3) implement the Los Angeles County River Master Plan, 4) further cooperation with local governments in the region to secure open space and parkland, and 5) expand education, public access, and resource stewardship components in a manner that best serves the public, protects habitat, and provides recreational opportunities.

SMBRP Proposition 12 Grant Program: The *Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection Bond Act (Proposition 12)*, passed in March 2000, provides a total of 25 million to projects that clean up or rehabilitate the resources of Santa Monica Bay. It was the first significant source of state funding to carry out the goals of the 1995 Santa Monica Bay Restoration Plan. By late 2000, nineteen projects, totaling approximate \$6 million, representing the first phase of the bond money support, had been awarded funding under this Prop. 12 Grant Program. The 19 projects include a wide array of actions that address pollution prevention, habitat restoration, as well as critical research and educational needs of the watershed. Many of the projects address information and action needs identified in this document. A new round of project solicitation will be conducted in 2002. Proposition 12 funds were awarded to a number of entities for habitat restoration or assessment work. Ten projects were funded including: Shallow Water Habitat Mapping in Santa Monica Bay (CSU Monterey Bay Foundation), Kelp Restoration Project (Santa Monica BayKeeper), Solstice Creek Restoration (National Park Services), Malibu Creek Habitat Enhancement: Removal of *Arundo donax* (Mountains Restoration Trust), Development of a Stream Health Index for the Malibu Creek Watershed (Heal the Bay), Restoration of Natural Resources in Rocky Intertidal Habitats in Santa Monica Bay (UCLA Institute of the Environment), and Removal of Rindge Dam (California Department of Parks and Recreation).

NONPOINT SOURCE PROGRAM

Nonpoint source pollution to the ocean (greater Santa Monica Bay) includes urban runoff, aerial fallout, spills, sediment resuspension, oil seeps, vessel traffic, and advection. Strategies for dealing with urban and storm runoff were discussed under the Core Regulatory section. In addition, a priority over the next two years is to divert dry weather flows from all problematic storm drains to the sewer system. Currently, diversions of six storm drains (Pico-Kenter, Ashland, Brooks Ave., Herondo St., Pershing Dr., and Thornton Ave.) have been fully or partially funded through Proposition A money. Therefore, more attention will be shifted to deal with Santa Monica Canyon, the only problematic drain that has not been scheduled for diversion, and Santa Monica and Redondo Piers, where measures to prevent sewer system leakage may be needed.

Strategies have been developed and efforts are underway to address aerial fallout, sediment resuspension, septic systems, marinas, and vessel traffic.

Clean Beaches Initiative: On July 27, 2001, Governor Gray Davis signed the Budget Act of 2001 providing for approximately \$30 million Proposition 13 grants to be made available to fund 38 Clean Beaches Initiative (CBI) Projects. The major goal of the CBI is to reduce health risks and increase the public's access to clean beaches. A total of approximate \$11 million will be provided to 14 projects in Los

Angeles County, including 11 high-profile project aimed at improving beach water quality in Santa Monica Bay (See table below). These projects were selected and funded to achieve significant reduction in beach closure and warning in a short time period (2-3 years).

Project (Beach) Location	Project Description	\$\$
Mother's Beach-Marina del Rey	Feasibility and construction of water infusion system to improve water circulation – Dredge nearshore basin around Marina to remove and replace sediment	\$2,000,000
Surfrider Beach/Malibu Lagoon	Storm drain filtration and disinfection at two drains	\$2,000,000
Malibu Creek	Installation of polluted runoff treatment technology	\$385,000
Cabrillo Beach	Water circulation improvements feasibility/design; alternative water recreation; sediment removal along breakwater	\$1,250,000
Santa Monica Pier	Sewer line upgrades, netting, fish bait waste collection, bird-proof trash enclosures	\$350,000
Redondo Beach Pier	Sewer line upgrades, netting, fish bait waste collection, bird-proof trash enclosures	\$350,000
Temescal Canyon	Dry weather runoff diversion	\$800,000
Manhattan Beach	27 th Street dry-weather runoff diversion	\$200,000
Santa Monica Canyon	Dry weather runoff diversion	\$1,020,000
Imperial Hwy./Dockweiler Beach	Dry weather runoff diversion	\$810,000
Surfrider Beach/Malibu Lagoon	Implementation of SMBRP septic management plan	\$794,000
Total		\$9,959,000

Septic Systems: In January 2000, the Santa Monica Bay Restoration Project (SMBRP) convened a Task Force to address the issue of septic system management throughout the northern Santa Monica Bay watersheds. The area of focus covers three jurisdictions: the City of Malibu, the City of Los Angeles, and areas of unincorporated Los Angeles County. In order to bring together the various perspectives and expertise on this issue, the Task Force was composed of representatives from various stakeholder organizations including: State Department of Health Services (SDHS); Los Angeles Regional Water Quality Control Board (RWQCB); California Coastal Commission; Los Angeles County Departments of Public Works, Health Services and Regional Planning; City of Los Angeles Department of Building and Safety; City of Malibu Environmental and Building Safety Department; Los Angeles County Board of Supervisors Office - Third District; and Heal the Bay.

The Task Force's goal has been to develop solutions to the problems associated with septic systems and their impact on water quality, while at the same time identifying the obstacles that must be faced in trying to mitigate the situation. By bringing an understanding of these obstacles into the formulation of its recommendations, the Task Force has tried to ensure that the solutions are implementable and still fully address the problem at hand.

After its review of the existing management and regulatory framework for septic system management in the Bay's watersheds, the Task Force's recommendations suggest that improving management of septic systems will require significantly greater oversight by both state and local agencies as well as improved coordination between them.

The Task Force recommends a comprehensive approach to septic system management in northern Santa Monica Bay that includes the following elements:

- **Issue waste discharge requirements (WDRs) for all existing multi-family and commercial establishments in northern Santa Monica Bay watersheds.**
 - The RWQCB should issue WDRs for all existing commercial and applicable multi-unit developments in northern Santa Monica Bay watersheds that are not currently permitted. It is estimated that there are approximately 380 systems that need permits in this area.
 - Develop general WDRs for common types of commercial and multi-unit residential units to facilitate the permitting process.
 - Seek funding to increase RWQCB staffing to reduce the permit backlog.
- **Establish a comprehensive permitting program for operation, inspection and monitoring of all septic systems.**
 - Local agencies should require operational permits for all (commercial, multi-unit and single-family) septic systems. These permits would be issued on a five-year renewal basis, with shorter intervals for poorly performing systems.
 - Develop a comprehensive inspection and monitoring program that would be implemented through the operational permits. Require that initial inspections be conducted between six and 12 months after installation of new systems.
 - All properties served by septic systems should be permitted within five years of the adoption of these recommendations by local municipalities.
 - Develop computerized management systems to track and analyze permits, maintenance and inspection schedules.
- **Design and implement a comprehensive groundwater monitoring program to improve assessments of septic system impacts to receiving waters and groundwaters.**
 - Design a regional groundwater monitoring program in order to obtain information needed to better understand groundwater conditions and reduce the number of monitoring wells that may be required of permittees. This monitoring program would be implemented through WDRs.
- **Establish a coordinated approach for oversight of septic systems, including modification/update of the WDR waivers between the RWQCB and local agencies.**
 - The RWQCB and local agencies should establish agreements that ensure consistent implementation of a policy that all commercial and multisystems obtain WDRs before building permits are issued by local agencies.
- **Develop a grants program for qualified homeowners to provide financial assistance to upgrade failing systems.**
 - Establish a financial assistance program for homeowners for which the upgrade, replacement or repair of failing on-site waste disposal systems would be a significant financial hardship.
- **Develop more stringent requirements for installation and operation of wastewater management systems in environmentally sensitive areas.**
 - Utilize a risk-based approach in implementing the operational permit program, e.g. identify environmentally sensitive areas to be addressed as high priority, develop more stringent operating permits for wastewater management systems in these areas.
- **Establish local septic system maintenance districts to oversee and fund the permitting, inspection and monitoring activities.**
 - The process for establishing such a district is outlined in the State Health and Safety Code.

- **Conduct public outreach to residents regarding proper operation and maintenance of septic systems.**
 - Educational outreach to septic system owners should be conducted regarding proper operation and maintenance of septic systems and regarding the implementation of the proposed permitting and inspection programs.

The Task Force is currently seeking approval and support of these recommendations from the agencies responsible for their implementation. Finalized recommendations will be incorporated into the Santa Monica Bay Restoration Plan with the ultimate goal of implementation by all appropriate entities.

Aerial Fallout: Funded by USEPA, the SMBRP, and the Los Angeles County Department of Public Works, researchers at UCLA and SCCWRP completed a study in 2001 on air transport/deposition of toxic contaminants to the Bay. The study sought to establish what the total annual pollutant load from air deposition is to both Santa Monica Bay and the Bay watershed, assess how large the load is compared to other sources, and determine how the loads varies spatially and temporally. The Regional Board can use this information to evaluate the effectiveness of air pollution control measures. The study's findings indicate that:

- Aerial deposition is a significant contributor to the overall pollutant load to the Bay for trace metals such as lead, chromium, and zinc, and less so for copper and nickel. The atmospheric portion of inputs for the five metals varied from 13 – 99% of the total trace metal inputs to Santa Monica Bay considering both atmospheric and non-atmospheric sources.
- On an annual basis, daily dry deposition of metals on Santa Monica Bay and its watershed far exceeds the amount deposited during rain events. Also, chronic daily dry deposition is far greater than deposition occurring during Santa Ana conditions when large volumes of polluted air blows from inland out to sea. Daily quantities of metals deposited during Santa Ana and rainfall events are comparable to the chronic daily deposition, however, since rainfall and Santa Anas are infrequent events, they are not significant factors in determining the total deposition load.
- Most of the mass of metals deposited by dry deposition on Santa Monica Bay and its watershed originates as relatively large aerosols from area sources (off-highway vehicles such as construction equipment and small businesses) in the Santa Monica Bay watershed.

The study's implications for management of nonpoint source pollution are several and include:

- Daily chronic dry deposition of metals must be a significant nonpoint source in establishing TMDLs for Santa Monica Bay.
- Reductions of nonpoint source inputs may require coupling between air quality and water quality regulatory actions and policies.

Sediment Resuspension: Currently, there is no study specifically planned to examine sediment resuspension as a source of pollutant loading to the Bay. However, the USEPA Superfund investigation on the Palos Verdes Shelf evaluated the feasibility of capping DDT-contaminated sediments as a remediation measure. USEPA conducted a pilot project in September 2000 to evaluate cap placement methods and cap stability at three test cells on the Palos Verdes Shelf. This project will provide valuable information that will be used to design a capping project to isolate DDT-contaminated sediments on the Palos Verdes Shelf and prevent resuspension and distribution of these contaminants to other areas.

Marinas and Vessel Traffic: Boating wastes (vessel traffic) are potentially a significant source of loadings into the Bay as well as into harbors of pathogens, trash, and some heavy metals. Launched in 1996, the SMBRP has implemented a comprehensive boater education program for the southern California counties. Their program addresses non-point source pollution generated from boat maintenance and activities. This includes sewage, used motor oil, trash and debris, fuel, heavy metals and cleaning agents. One of the SMBRP's focuses is to promote clean marinas. Their Clean Marina 319(h) grant,

awarded by the SWRCB, will further help educate boaters, facilitate clean-out practices, and promote recognition of successes.

CWA Section 319(h)-funded Activities: A 319(h)-funded nonpoint source control strategy being undertaken in the Malibu Creek Watershed is evaluation of BMPs for horse stables and continuation of volunteer Stream Team monitoring by Heal the Bay. The Santa Monica BayKeeper also received 319(h) grant funds in 2001 to continue a citizen monitoring program involving storm drains flowing into Santa Monica Bay and to add in additional monitoring of Ballona Creek.

We continue to support as a high priority for 319(h) program funding in FY2002/03 projects to restore wetlands in Malibu, Topanga, and Trancas Lagoons.

Proposition 13-funded Activities: The Southern California Coastal Water Research Project (SCCWRP) received Proposition 13 funding (Coastal Subaccount) in 2001 for two projects affecting Santa Monica Bay. One is “Implementation and Evaluation of BMPs for Improving Coastal Water Quality.” This is a multi-regional project which will conduct enhanced BMP effectiveness monitoring through use of more relevant indicators such as toxicity removal and reduction of pesticides and biologically-available metals. Samples will be collected during storm events. The other funded project is “Implementation of Coliform TMDL for Santa Monica Bay Beaches Using Standard Methods and Rapid Indicator Detection Techniques.” AB411 requires weekly bacterial indicator monitoring and posting of beaches with chronic contamination. AB538 requires source identification at beaches with storm drains that have chronic contamination. This project will identify sources of fecal contamination to characterize the presence of human versus animal contamination.

Proposition 12-funded Activities: A number of entities received Proposition 12 funding distributed by the Santa Monica Bay Restoration Project in late 2000. Four projects were approved in the “Pollution Prevention” category: Ballona Creek Litter Monitoring and Collection Project (County of Los Angeles), Risk Assessment of Decentralized Wastewater Treatment Systems (City of Malibu), Catch Basin Debris Excluder Devices (City of West Hollywood), and Ballona Creek Water Quality Improvement Project (City of Culver City). Two projects were approved in the “Public Education” category: Ocean Discovery Center EcoPak Program (UCLA) and An Interactive Information System for Santa Monica Bay (USC Wrigley Institute for Environmental Studies). More information about these projects may be found at <http://www.smbay.org/>.

Additionally, work will continue with the Bay Watershed Council, the Implementation Committees for Ballona Creek and Malibu Creek, with the Storm Water Santa Monica Bay Watershed Committees, and with other Santa Monica Bay Watershed stakeholder groups, in order to identify any necessary modifications and/or new nonpoint measures that should be implemented through the Bay Restoration Plan or individual Ballona Creek and Malibu Creek Plans.

BASIN PLANNING

We will continue to develop strategies for the implementation of priority actions identified under the Santa Monica Bay Restoration Plan, including protection of the Ballona Wetlands, as well as additional actions targeted by the Watershed Council for action. We will also integrate these into the Watershed Council's Plan and implementation activities.

The 2001 Triennial Review identified a number of high priority issues affecting this watershed management area. One currently funded activity is adoption of TMDLs as Basin Plan amendments as required under the Consent Decree. Resource use is estimated at 0.5 PY/TMDL. Another high priority activity that can occur within three years based on the current level of funding is evaluating specific

proposals for changes to beneficial uses. After evaluation of the region-wide list, one to three beneficial use revisions would be addressed. Those specific to the coastal creeks include adding the warmwater habitat use to Cold Creek, identifying Marie Canyon and Sweetwater Creek as distinct waterbodies, adding (all potential) spawning habitat, fish migration, protection of rare and endangered species, and cold water habitat (references to steelhead trout) to Solstice Creek, and add protection of rare and endangered species (steelhead trout and southwestern pond turtle) to Topanga Creek. Approximately 0.1 PYs is needed per beneficial use change.

Basin Planning activities will include continued participation in both internal and external watershed planning efforts and further incorporation of watershed management and principles and watershed-specific priorities into future updates of the Basin Plan, where appropriate.

WATERSHED MANAGEMENT

The Los Angeles County Department of Public Works received a Proposition 13 grant (Watershed Protection Subaccount) in 2001 to develop a Ballona Creek Watershed Management Plan. Although the greater Santa Monica Bay has a restoration plan, this subwatershed with its many urban impacts needs special attention. Since the Creek has also been shown to impact the nearshore environment of Santa Monica Bay, additional benefits will result.

The Las Virgenes-Malibu-Conejo Council of Governments released a [Malibu Creek Watershed Management Area Plan](#) in 2001 that is an expansion of the Plan required under the County Municipal Stormwater Permit.

Near-term Activities

Specific resource needs are described in the Region-wide Section of this document.

Since most of the NPDES permits for this watershed were renewed in 1997, in general, core regulatory activities during the next four years will focus on permit compliance, monitoring report review, and enforcement as needed. Work continues on lower Malibu Creek issues. Members of the watershed team will be involved with periodic updates of the State of the Watershed Report. Additionally, there will be on-going interaction with stakeholders and followup on goals established during the permit renewal phase.

In particular, over the next two fiscal years, a number of issues need to be addressed that require additional funding. The major NPDES permits that were not renewed in 1997 (one POTW and the three generating stations) expired in 1999 (Scattergood, El Segundo and Redondo were renewed in 2000). The next watershed cycle when the Santa Monica Bay WMA will be targeted is in 2003/04. In the meantime, the POTW has completed construction of its secondary treatment facilities in order to achieve compliance with full secondary treatment requirements. There is a need to revise the facility's effluent monitoring program to include intermediate monitoring to determine removal efficiencies. There are also a number of major studies requested of dischargers have been submitted, are due soon, or are likely to take place which will require review and evaluation. Consolidation of non-storm water discharges into general permits specific to watersheds and development of a waiver program for de minimis non-storm water discharges also requires resources. **It is estimated the above activities will require an additional 2 PYs/year over baseline resources.**

Regarding resources needed to continue oversight of the Los Angeles County storm water permit (regulatory-based BMP management), regulatory personnel will be revising the annual program report format, auditing the permittees, evaluating the revised model programs, and reviewing reports and

alternate programs submitted by permittees. The eighteen municipal program audits must be completed and matched with BMPs selected to address the pollutants of concern to facilitate development of TMDLs. The Caltrans storm water management program BMPs must be matched with pollutants of concern to facilitate TMDLs impacted by transportation land use. In addition, SWPPPs for all industrial storm water facilities in the WMA must be reviewed and BMPs matched with pollutants of concern to facilitate TMDL development. **These above activities will also require an additional 2 PYs.**

A preliminary review of resources for core regulatory activities against cost factors has determined that our region is seriously underfunded for our baseline program. We will be seeking more funding for our core program activities.

Issuing waste discharge requirements for all existing multi-family and commercial establishments in northern Santa Monica Bay watersheds not currently under permit (with any necessary followup work), as recommended by the Santa Monica Bay Restoration Project septic systems task force, will entail requiring **an additional 2 – 4 PYs per year for at least the next five years.**

There are a number of information gaps that need to be filled over the next few years such as:

- Review existing data and assess fish contamination levels in the entire Santa Monica Bay (not just the Palos Verdes Shelf).
- Analyze the link between contaminants in fish and biological impacts to shore birds, sea birds, and marine mammals.
- Continued involvement in updates to the baseline State of the Watershed Report, focussing on filling data gaps and evaluating cumulative impacts as monitoring data become available from dischargers.
- Regional Board ambient monitoring, and evaluation of monitoring data from the municipal storm water program.
- An important issue to address at some point in the future is the need to protect the populations of threatened and endangered species in the Bay which include the California least tern, Belding's savannah sparrow, western snowy plover, California red-legged frog, California brown pelican, El Segundo blue butterfly, steelhead trout, and tidewater goby. Depending on the level of existing efforts, the needs for each species range from monitoring and assessing current conditions, to developing or implementing strategies for population recovery.
- In the Malibu Creek Watershed, a number of long-term projects are being considered or are in progress which the Regional Board will be involved with to some extent. The Department of Parks and Recreation and the City of Malibu are investigating development of a plan to reduce unseasonal breaching of the lagoon; a plan may be available by 2002. Also, the Rindge Dam Task Force is investigating the possibility and alternative ways to remove the dam in order to facilitate access to the upper watershed by steelhead trout. There is no projected end date for this project. Additionally, although not a nonpoint source project per se, the POTW which discharges to Malibu Creek is under a discharge prohibition starting each April 15 through November 15 of each year, except during times of plant upset, storm events, or the existence of minimal streamflow conditions that require flow augmentation in Malibu Creek to sustain endangered species. However, in the long-run, this discharge prohibition may have many other implications on water quality and quantity in the Creek and Lagoon.
- Develop a strategy for regulating septic systems in the Malibu area.
- A priority planning issue is to define water quality standards for nutrients in Malibu Lagoon and Creek.

- Develop inventory and establish monitoring stations for invasive exotic and sensitive plant species in riparian areas of northern Santa Monica Bay watershed.
- Develop strategy to control/eradicate invasive plant and animal species such as Arundo and crayfish.
- We will also continue our involvement with stakeholder activities and the pursuit of funding options, especially those involving implementation of nonpoint source measures (coordinate 205(j), State Revolving Fund, Proposition 13, Small Community Grant, and 319(h) activities) as well as other outreach activities such as speeches, meetings, and participation in environmental events. As resources permit, we will also work with stakeholders to implement provisions of the Coastal Zone Act Reauthorization Amendments.
- Comments on watershed issues in CEQA documents (for the highest priority projects) will continue to be prepared; however, there is currently no funding for this program.
- Implement biological monitoring in priority watersheds (e.g. Malibu, Topanga).
- As a followup to the aerial deposition study recently completed:
 - Pinpoint sources of aerial deposition in the watershed
 - Study the deposition of other pollutants of concern (nutrients, pesticides, mercury)
 - Determine how aerial deposition is transformed into urban runoff, and how much of it is transformed into runoff

Potential Long-term Activities

In the long-term, Basin Planning activities will include continued participation in both internal and external watershed planning efforts and further incorporation of watershed management and principles and watershed-specific priorities into future updates of the Basin Plan, where appropriate.

A wetlands management issue that will continue to impact core regulatory activities in Malibu Creek is the listing of the creek as critical habitat for the endangered steelhead trout. Water quantity will continue to play as critical a role as water quality in the issue.

We will continue to develop strategies for the implementation of priority actions identified under the Santa Monica Bay Restoration Plan, including protection of the Ballona Wetlands, as well as additional actions targeted by the Watershed Council for action. We will also integrate these into the Watershed Council's Plan and implementation activities. Additional issues may include: 1) conduct or review studies to evaluate and refine (if necessary) the designated beneficial uses for certain waterbodies, 2) consider the establishment of wet weather criteria in some areas, 3) integrate water supply and quality issues with local land use planning and management, and 4) institute better coordination of multi-agency reviews of environmental impacts for flood control and development projects, including the consideration of regional mitigation programs.